REMARKS

The application has been amended and is believed to be in condition for allowance.

Amendments

New claims 12, 15, and 17 find support in published application paragraph [0027]: "… a first pump impeller 4 which provides a flow rate of 18 m.sup.3/h at a pressure of 1.3 bar, and a second pump impeller 6 which provides a flow rate of 2 m.sup.3/h at a pressure of 2.8 bar for the operation of the device. The second pump impeller 6 therefore increases the pressure of the water which is intended for the operation of the device from 1.3 to 2.8 bar."

New claims 13-14 find support in published application paragraph [0016]: "In one example of use, the impeller which operates at a low pressure and high flow rate is intended for the filtration of the pool water, and the other impeller which operates at a higher pressure and lower flow rate is intended for a cleaning device for swimming pools." Also see original claim 9.

New claims 16 and 19 further recite the embodiment of Figures 4-6.

No new matter is entered by way of these amendments.

Rejections

Claims 1-4, 6, and 11 were rejected as obvious over POZIVIL 6,167,724 in view of KOBAYASHI 5,888,053.

Claim 5 was rejected in further view of CAMETTI 2,887,062.

Claims 7 and 8 were rejected as obvious in further view of GAETH 5,049,770.

Applicant respectfully disagrees.

The present invention relates to a pump comprising two impellers. The first impeller operates at a low pressure and high flow rate (see impellor 4 of Figures 1-3 and impellor 23 of Figures 4-6). The second impeller operates at a higher pressure and a lower flow rate (see impellor 6 of Figures 1-3 and impellor 30 of Figures 4-6).

The electric motor driving the impellers is positioned between the two impellers (motor 2, motor 18).

According to the invention, the first impeller has two outlets; namely, an internal first outlet (7, 24) connected to the inlet of the second impeller which delivers the liquid at a high pressure and a low flow rate, and an exterior second outlet (12, 16) for delivering the liquid at a low pressure and high flow rate.

The inventive pump is an improvement over the prior art in that this pump limits the number of the pumps used in a maintenance system for swimming pools (see paragraph [0004]): the

subject matter of the invention is a dual pump which has a single electric motor and which is intended to perform the function of two different pumps which are conventionally used for the maintenance of swimming pools.

This structure and functionality is neither taught nor suggested to one skilled in the art specialized in maintenance system for swimming pools from either the domain of cryogenic (POZIVIL) or air pump (GAETH). Further, the cryogenic pump of POZIVIL does not work at the recited presure/flow rates of new claims 12, 15, and 17.

The Examiner rejects claim 1 as obvious over POZIVIL in view of KOBAYASHI.

POZIVIL teaches a pump in which the first impeller (180) has two outlets: a first outlet (191) connected to the inlet of the second impeller (192) and a second outlet (188) exterior to the pump for delivering the liquid at a high flow rate.

KOBAYASHI describes a pump comprising two impellers, the first impeller operating at a low pressure and high flow rate and the second impeller operating at a higher pressure and a lower flow rate.

The Examiner asserts that "*it would have been obvious to one of ordinary skilled in the art at the time of invention to have modified the pump assembly of POZIVIL by arranging the electric motor between the first and second impellers and their*

*outlet and inlet conduits, respectively, as taught by KOBAYASHI, in order to cool the motor by running the working fluid over the motor's outer casing."*

The Applicant respectfully disagrees with this statement because POZIVIL teaches a pump used for pressuring a flow of **cryogenic liquid** (please see col. 2 lines 6-7).

The person skilled in the art knows that for this type of cryogenic pump the motor should be kept as far as possible from the fluid because the motor is a source of heat (the motor taught by POZIVIL has a high power of 150 to 400 kW (see col. 6 lines 25-26) far superior to the power of 1.7 kW of the motor used in the invention) which would raise the pressure within the pump if the motor is kept too close to the cryogenic fluid.

As a matter of fact, if the motor was arranged between the two propellers, it would raise the temperature of the cryogenic liquid and as a way of consequence the fluid would be transformed into vapor which would cause the raise of the pressure inside the pumping system, especially if the cryogenic fluid runs over the motor's outer casing as stated by the examiner. This would lead to a dangerous security problem because the pump would not be capable to work properly under such high pressure.

In other words, POZIVIL teaches away from modifying the position of the motor because the person skilled in the art would

try to keep the motor as far as possible from the fluid in order to avoid any type of overpressure within the pump.

Moreover, there is no motivation to replace the cryogenic fluid used in the pump of POZEVIL by any other type of fluid, in particular water.

Thus, the Applicant considers that the claims are indeed non-obvious.

Further, the dependent claims are believed to be allowable at least for depending from an allowable claim.

Accordingly, reconsideration and allowance of all the claims are respectfully requested.

The present amendment is believed to be fully responsive. Allowance of the case is solicited.

The Commissioner is hereby authorized in this, concurrent, and future submissions, to charge any deficiency or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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